

WHAT IS CLAIMED IS:

- Sub A1
1. A composite structure, comprising:
 - a. a foam sheet comprising polyolefin; and
 - b. a coating disposed on at least one surface of said polyolefin foam sheet, said coating comprising at least one member selected from the group consisting of ethylene/propylene rubber, homogeneous ethylene/alpha-olefin copolymer, and ethylene/acrylic acid copolymer, whereby, said coating is capable of bonding said polyolefin foam sheet to a second foam sheet having a different chemical composition than said polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch.
 2. The composite structure of claim 1, wherein said bond strength is at least about 4.5 lb_f/inch.
 3. The composite structure of claim 1, wherein said polyolefin foam sheet comprises polyethylene homopolymer or copolymer and said second foam sheet comprises polypropylene homopolymer or copolymer.
 4. The composite structure of claim 1, wherein said polyolefin foam sheet comprises polypropylene homopolymer or copolymer and said second foam sheet comprises polyethylene homopolymer or copolymer.
 5. The composite structure of claim 1, wherein said coating comprises ethylene/propylene rubber.
 6. The composite structure of claim 1, wherein said coating is substantially solventless.

7. The composite structure of claim 1, wherein said polyolefin foam sheet comprises polyethylene homopolymer or copolymer having a density ranging from about 0.4 to about 15 pounds/ft³.

5 8. The composite structure of claim 1, wherein said polyolefin foam sheet comprises polypropylene homopolymer or copolymer having a density ranging from about 0.5 to about 10 pounds/ft³.

9. The composite structure of claim 1, further including a second foam
10 sheet comprising a material of a different chemical composition than said polyolefin foam sheet and bonded by said coating to said polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch.

10. The composite structure of claim 9, wherein said polyolefin foam
15 sheet comprises polyethylene homopolymer or copolymer and said second foam sheet comprises polypropylene homopolymer or copolymer.

11. The composite structure of claim 9, wherein said polyolefin foam
20 sheet comprises polypropylene homopolymer or copolymer and said second foam sheet comprises polyethylene homopolymer or copolymer.

12. A multilayer composite structure, comprising:

a. a first foam layer comprising polyethylene homopolymer or copolymer;

25 b. a second foam layer comprising polypropylene homopolymer or copolymer; and

c. a coating disposed between and bonding said first and second foam layers together at a bond strength of at least about 4 lb_f/inch, said coating comprising at least one member selected from the group consisting

Sub 22
Cont of ethylene/propylene rubber, homogeneous ethylene/alpha-olefin copolymer, and ethylene/acrylic acid copolymer.

13. The composite structure of claim 12, wherein said coating comprises
5 ethylene/propylene rubber.

14. The composite structure of claim 12, wherein said coating is substantially solventless.

10 15. The composite structure of claim 12, wherein said first foam layer comprises low density polyethylene.

16. The composite structure of claim 12, wherein said first foam layer has a density ranging from about 0.4 to about 15 pounds/ft³.
15

17. The composite structure of claim 12, wherein said second foam layer comprises polypropylene homopolymer.

18. The composite structure of claim 12, wherein said second foam layer
20 has a density ranging from about 0.5 to about 10 pounds/ft³.

19. The composite structure of claim 12, wherein the bond strength between said first and second foam layers is at least about 4.5 lb_f/inch.

25 20. The composite structure of claim 12, wherein said structure is in the form of a bodyboard flotation article.

21. The composite structure of claim 20, wherein said polyethylene foam layer has a thickness ranging from about 1/16 to about 1 inch and said
30 polypropylene foam has a thickness ranging from about 1 to about 4 inches.

22. A method for making a composite structure, comprising:
- a. providing a foam sheet comprising polyolefin; and
 - b. coating at least one surface of said polyolefin foam sheet, said
- 5 coating comprising at least one member selected from the group consisting of ethylene/propylene rubber, homogeneous ethylene/alpha-olefin copolymer, and ethylene/acrylic acid copolymer,
- whereby, said coating is capable of bonding said polyolefin foam sheet to a second foam sheet having a different chemical composition than said
- 10 polyolefin foam sheet at a bond strength of at least about 4 lb_f/inch.
23. The method of claim 22, wherein said bond strength is at least about 4.5 lb_f/inch.
- 15 24. The method of claim 22, wherein said polyolefin foam sheet comprises polyethylene homopolymer or copolymer and said second foam sheet comprises polypropylene homopolymer or copolymer.
- 20 25. The method of claim 22, wherein said polyolefin foam sheet comprises polypropylene homopolymer or copolymer and said second foam sheet comprises polyethylene homopolymer or copolymer.
26. The method of claim 22, wherein said coating comprises ethylene/propylene rubber.
- 25 27. The method of claim 22, wherein said polyolefin foam sheet comprises polyethylene homopolymer or copolymer having a density ranging from about 0.4 to about 15 pounds/ft³.

- 25